

UNITED STATES
AIR FORCE

*OCCUPATIONAL
SURVEY REPORT*

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DTIC QUALITY INSPECTED 4

AVIONIC TEST STATION AND COMPONENT
F-16/F-117/A-10/B-1B

AFSC 2A0X1B

AFPT 90-2A0-037

JUNE 1996

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION and TRAINING COMMAND
1550 5th STREET EAST
RANDOLPH AFB, TEXAS 78150-4449

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PREFACE

This report presents the results of an Air Force Occupational Survey of the Avionic Test Station and Component, F-16/F-117/A-10/B-1B (AFSC 2A0X1B) career ladder. Authority to conduct occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

Mr. Tom Duffy, an Inventory Development Specialist, developed the survey instrument. Mrs. Joan St. John, Occupational Analyst, analyzed the data and wrote the final report. Mr. Wayne Fruge provided computer programming support, and Mr. Richard Ramos provided administrative support. Mr. Daniel Dreher, GS-13, Chief, Airmen Analysis Section, AF Occupational Measurements Squadron (AFOMS), reviewed and approved this report for release.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to OMS, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB Texas 78150-4449 (DSN 487-6623).

RICHARD C. OURAND, JR., Lt Col, USAF
Commander
Air Force Occupational Measurement Sq

JOSEPH S. TARRELL
Chief, Occupational Analysis Flight
Air Force Occupational Measurement Sq

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SUMMARY OF RESULTS

1. Survey Coverage: Members of the Avionic Test Stations and Components, F-16/F-117/A-10/B-1B (AFSC 2A0X1B) career ladders were surveyed to obtain current task and equipment data for use in examining training programs. Survey results are based on responses from 741 Active Duty, Air National Guard and Reserve members worldwide. All commands were proportionately represented.
2. Career Ladder Structure: Structure analysis identified two clusters of jobs and 5 independent jobs: the F-16 Avionics and Electronic Technician Cluster, the B-1B Avionics Cluster, the F-117 Avionics Technician IJT, the A-10 Avionics Technician IJT, the Training IJT, the Program Managers IJT, and the First-Line Supervisor IJT. These jobs account for 92 percent of respondents, while the rest perform tasks and duties that did not place them within the main jobs of the ladder.
3. Career Ladder Progression: Normal career ladder progression with the AFSC 2A0X1B career ladder is evident. Three-skill level personnel spend the vast majority of their job time performing technical tasks involving F-16 Avionics and Electronics maintenance and B-1B Avionics maintenance activities. At the 5-skill level, personnel are still involved in the above activities, but begin to become involved with supervisory activities. Seven-skill level personnel reflect a greater shift toward supervisory and managerial work, although they are still involved with performing technical tasks. The AFMAN 36-2108 *Specialty Description* provides a broad and generally accurate description of the technical and supervisory functions performed within the career ladder.
4. Training Analysis: First-enlistment members spend approximately 90 percent of their duty time devoted to technical and administrative or supply functions. As to the Specialty Training Standard (STS), a lack of support for a large portion was due to the diversity and variety of jobs within the career ladder. An alternative approach was used, looking at job data rather than standard criterion groups, to ensure that job-specific areas were adequately covered. Several areas should be reviewed by subject-matter experts for possible deletion due to low percent members performing in both the standard criterion groups and the job groups.
5. Job Satisfaction Analysis: Overall, respondents are satisfied with their jobs when compared to previous studies of this career ladder. Similar findings were noted when this career field was compared with responses from a representative sample of similar AFSCs. Respondents within specialty job groups, for the most part, are satisfied.
6. Implications: The AFSC 2A0X1B career ladder structure identified in this report is similar to that found in the F-16/A-10 Avionics Test Station and Components (AFSC 451X5), and the B-1B Avionics Test Station and Components (AFSC 451X7) OSRs published in June and October 1990, respectively. The AFMAN 36-2108 *Specialty Description* accurately describes the jobs and tasks being performed. Job satisfaction is fairly high among career ladder

incumbents. A thorough review of the STS is highly recommended due to the wide diversity of jobs performed. Several STS paragraphs may need to be deleted due to low percent members performing related tasks.

OCCUPATIONAL SURVEY REPORT (OSR)
F-16/F-117/A-10/B-1B
AVIONICS TEST STATION AND COMPONENT CAREER LADDER
(AFSC 2A0X1B)

INTRODUCTION

This is a report of an occupational survey of the Avionics Test Station and Component (AFSC 2A0X1B) career ladder conducted by the Occupational Analysis Flight of the Air Force Occupational Measurement Squadron (AFOMS). The survey was performed as part of the production cycle to maintain currency of pertinent career field training documents. Data gathered through this OSR have already been used by the technical school to review their training courses and related training documents in light of equipment and utilization changes which have occurred since the F-16/A-10 Avionics Test Station and Components OSR in June 1990 and the B-1B Avionics Test Station and Components OSR in October 1990.

Background

The AFMAN 36-2108 *Specialty Descriptions* for this career field state that 3- and 5-skill level members are responsible for identifying and isolating avionics equipment malfunctions; and inspecting, disassembling, repairing, reassembling, aligning, modifying, calibrating, and checking avionics test stations consoles, components, and support equipment.

In addition to the above, 7-skill level members are also responsible for analyzing performance and isolating malfunctions of avionic electronic equipment; inspecting, disassembling, repairing, reassembling, aligning, modifying, programming, calibrating, and conducting checkout of avionics equipment; and analyzing and isolating avionic test stations, consoles, and support equipment malfunctions.

All new personnel attend the electronic principles course conducted at Lackland AFB TX. In addition, initial 3-skill level training for AFSC 2A0X1B personnel is currently provided through a 61-day course (J3ABR2A031B-000) at Sheppard AFB TX. This course provides personnel with the knowledge and skills required to perform maintenance on the F-16/B-1/A-10/F-117 Avionic Intermediate Shop (AIS) equipment. It also provides training in Abbreviated Test Language All Systems software language, aircraft systems theory, common test station components, F-16 displays/ indicators (D/I) test station, F-16 radio frequency (RF) test station, B-1 digital (DIG) test station, associated line replaceable units (LRU), B-1 DIG to include digital defensive automatic test equipment augmentation equipment. Additionally, training is given in support equipment, F-16 AIS troubleshooting procedures, safety, security, Air Force technical

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orders, management and maintenance directives, and handtools. Entry into the career ladder currently requires Armed Forces Vocational Aptitude Battery minimum score of 67 Electronic, and strength factor of J (60 lbs).

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI), AFPT 90-2A0-037, dated August 1994. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, and tasks from previous applicable OSRs. The preliminary task list was refined and validated through personal interviews with 24 subject-matter experts (SMEs) from 10 operational bases and 1 training unit which were interviewed at the following locations:

<u>BASE</u>	<u>ORGANIZATION</u>
Lowry AFB CO	3450th Technical Training Squadron
Cannon AFB NM	27th Component Repair Squadron
Dyess AFB TX	96th Maintenance Squadron
Eglin AFB FL	33d Maintenance Squadron
Shaw AFB SC	363d Component Repair Squadron
Seymour Johnson AFB NC	4th Component Repair Squadron
Holloman AFB NM	49th Maintenance Squadron
St. Louis IAP MO	131st Consolidated Aircraft Maintenance
Austin TX	924th Fighter Group
Kelly AFB TX	149th Fighter Group
Barksdale AFB LA	917ts Logistics Group
Carswell AFB TX	301st Maintenance Squadron

Other people contacted included Air Force Personnel Center (AFPC) classification personnel, MAJCOM functional and resource managers, and the Air Force Career Field Manager.

The resulting JI contained a comprehensive listing of 1,409 tasks grouped under 23 duty headings, with a background section requesting such information as grade, job title, time in present job, time in service, job satisfaction, component status, type of aircraft on which avionics systems are maintained, test equipment operated or maintained, and forms used in the performance of the incumbent's job.

Survey Administration

From December 1994 to July 1995, base training offices at operational bases worldwide administered the inventory to 1,199 DAFSC 2A0X1B personnel holding a 3-, 5-, or 7-skill level. Members eligible for the survey consisted of the total assigned population, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring within the time the inventories were administered to the field; and (4) personnel in their jobs less than 6 weeks. Members of the Air National Guard and Air Force Reserve were also surveyed. Participants were selected from a computer-generated mailing list obtained from the AFPC.

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in his or her current job. After checking tasks performed, each individual rated the tasks checked on a 9-point scale showing relative time spent on that task, compared to other tasks performed. The ratings ranged from 1 (very small amount time spent) to 9 (very large amount time spent).

Data Processing Approach

Using the ratings provided by the respondents, relative time spent for each task was computed by summing all the ratings given by the respondent, dividing each rating by that sum, and multiplying the result by 100. Assuming that all of the incumbent's ratings account for 100 percent of that member's job time, this procedure provides basis for comparing job descriptions of respondents in terms of percent members performing tasks and average percentage of time spent on tasks.

Survey Sample

Personnel were selected to participate in this study so as to ensure an accurate representation across MAJCOMs and paygrades. Table 1 reflects the percentage of assigned and sampled individuals in AFSC 2A0X1B. The 741 respondents in the final sample represent 73 percent of all eligible AFSC 2A0X1B personnel. The data are displayed showing the assigned and sampled populations. Table 2 reflects the percentage distribution by paygrade groups. As shown by both tables, the survey sample accurately reflects the overall population of the career ladder.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 2A0X1B personnel (generally E-6 or E-7 technicians) also completed a second booklet for either

TABLE 1
MAJCOM REPRESENTATION OF ACTIVE DUTY IN SAMPLE*

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
ACC	54	54
AFMC	14	13
PACAF	14	16
AETC	11	12
USAFE	6	5
OTHER	1	0
Total Assigned	1,067	
Total Sample	741	
Total Active Duty Assigned	628	
Total Active Duty Eligible	555	
Total Active Duty In Sample	438	
Total Guard Assigned	371	
Total Guard Eligible	355	
Total Guard In Sample	259	
Total Reserves Assigned	68	
Total Reserves Eligible	60	
Total Reserves In Sample	44	
Percent of Surveyed In Sample	73%	

* As of Dec 1994

TABLE 2
PAYGRADE DISTRIBUTION OF SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
E-1 to E-3	17	10
E-4	29	23
E-5	23	33
E-6	17	21
E-7	13	12
E-8	1	1

* As of Dec 1994

training emphasis (TE) or task learning difficulty (TD). The TE and TD booklets were processed separately from the JIs. The information gained from these task factor data is used in various analyses and is a valuable part of the training decision process.

Training Emphasis (TE). TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 52 senior AFSC NCOs who completed the TE booklet were asked to select tasks they felt required some sort of structured training for entry-level personnel, and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided by resident technical schools, field training detachments, mobile training teams, formal on-the-job training (OJT), or any other organized training method. There was acceptable agreement among the 52 raters. The average TE rating was .98, with a standard deviation of 1.21. Any task with a TE rating of 2.19 or above is considered to have a high TE.

Task Learning Difficulty (TD). TD is an estimate of the amount of time needed to learn how to do each task satisfactorily. The 49 senior NCOs who completed TD booklets were asked to rate the difficulty of each task using a 9-point scale (extremely low to extremely high). Interrater reliability was acceptable. Ratings were standardized so tasks have an average difficulty of 5.00 and a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered to be difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction in support of first-enlistment jobs.

SPECIALTY JOBS (Career Ladder Structure)

Each Air Force occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the Avionics Test Station and Components career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents.

Each individual in the sample performs a set of tasks called a *Job*. A hierarchical grouping program, which is a basic part of the Comprehensive Occupational Data Analysis Program system, creates an individual job description for each respondent (all the tasks performed by that individual and the relative amount of time spent on those tasks). It then compares each job description to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated program locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job

description. In successive stages, the program adds new members to the initial group or forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

When there is a substantial degree of similarity between jobs, they are grouped together and identified as a *Cluster*. The job structure resulting from this grouping process (the various jobs and clusters within the career ladder) can be used to evaluate the accuracy of career ladder documents (Career Field Education and Training Plans, AFMAN 36-2108 *Specialty Description*, and Specialty Training Standards (STS)), and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

Based on the analysis of tasks performed and the amount of time spent performing each task, two clusters of jobs and five independent jobs were identified within the career ladder. Figure 1 illustrates the jobs performed by AFSC 2A0X1B personnel.

A listing of these jobs and job clusters is provided below. The stage (STG) or group (GP) number shown beside each title references computer printed information, and the letter "N" indicates the number of personnel in each group.

I. F-16 Avionics and Electronic Technician Cluster (59 percent) (STG038, N=436)

- A. F-16 RF Test Station Technicians Job
- B. F-16 Processor/Pneumatics (P/P) Test Station Specialist Job
- C. F-16 Displays/Indicators (D/I) Test Station Specialist
- D. F-16 Computer Inertial (CI) Test Station Technician Job
- E. F-16 Multi-Avionics Test Station and Electronic Technicians Job
- F. F-16 Manual Support Equipment Specialist

II. F-117 Avionics Technicians IJT (4 percent) (STG104, N=32)

III. A-10 Avionics Technicians IJT (2 percent) (STG117, N=15)

IV. B-1B Avionics Cluster (16 percent) (GP036, N=116)

- A. B-1B Avionics Radar/Electronic Warfare (R/EW) Test Specialist
- B. B-1B Avionics Test Station Technician
- C. B-1B Avionics Digital Analog Video (DAV) Test Station Technicians
- D. B-1B Avionics Digital (DIG) Test Station Technicians

V. Training IJT (1 percent) (STG094, N=8)

AFSC 2A0X1B CAREER LADDER JOBS

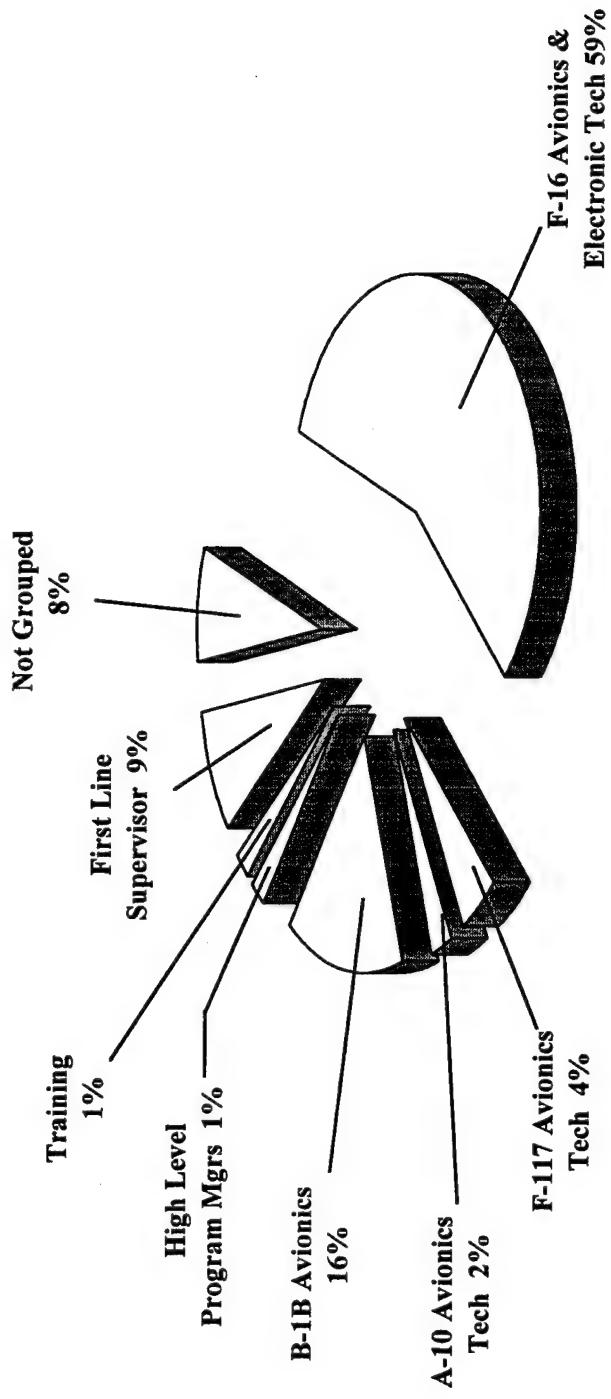


FIGURE 1

- VI. Program Managers IJT (1 percent) (STG075, N=5)
- VII. First-Line Supervisor IJT (9 percent) (STG050, N=67)
- VIII. Not Grouped (8 percent) (N=62)

The respondents forming these groups account for 92 percent of the survey sample. The remaining 8 percent perform tasks which do not group with any of the other defined jobs. Some of the job titles given by respondents which were representative of these personnel include: Transmitting Team Leader, Environmental Evaluator, DIG Team Leader, Suggestion Monitor, Quality Advisor, and Shelter Program Manager.

Group Descriptions

The following paragraphs contain brief descriptions of the five independent jobs (IJ) and two job clusters identified through the career ladder structure analysis. Appendix A lists representative tasks performed by identified IJ and job cluster groups. Table 3 displays time spent on duties, while Table 4 provides demographic information for each job discussed within this report.

I. F-16 AVIONICS AND ELECTRONIC TECHNICIAN CLUSTER (STG038, N=436). This cluster of jobs represents the core work of the career field. Fifty-nine percent of career ladder personnel work in these jobs and are responsible for maintaining a wide range of F-16 test stations including the RF Test Station, P/P Test Station, D/I Test Station, CI Test Station and the Multi-Avionics Test Station. Personnel operationally check, troubleshoot, remove, replace, and inspect equipment and components of the F-16. These are the broadest jobs identified, with personnel performing an average of 189 tasks. Examples of tasks performed include:

- clean shop facilities
- clean test stations
- perform periodic inspections of test stations
- perform ITA wraparound tests
- load and verify OFP into line replaceable units (LRUs)
- perform functional checks of LRUs issued from supply
- interpret diagrams, such as system, schematic, and fault isolation
- remove or replace test station shop replaceable units (SRUs)
- Maintain test equipment
- repair test stations
- remove or replace pins or connectors

TABLE 3

AVERAGE TIME SPENT ON DUTIES BY CAREER LADDER JOBS

	F-16 AVIONICS & ELECTRONIC TECH (N=136)	F-117 AVIONICS TECH (N=32)	A-10 AVIONICS TECH (N=15)	B-1B AVIONICS (N=116)	TRAINING (N=8)	PROGRAM MGR (N=5)	FIRSTLINE SUPVSR (N=67)
A. ORGANIZING AND PLANNING	3	2	4	2	2	27	24
B. DIRECTING AND IMPLEMENTING	2	1	2	2	2	16	18
C. INSPECTING AND EVALUATING	2	1	3	2	0	27	19
D. TRAINING	1	1	3	1	86	10	6
E. PERFORMING GENERAL ADMIN & SUPPLY FUNCTIONS	6	6	10	4	5	16	11
F. PERFORMING GENERAL AVIONICS MAINT	34	43	39	29	4	1	10
G. MAINT DIGITAL (DIG) TEST STATIONS & ASSOCIATED LINE REPLACEABLE UNITS (LRUs)	*	1	*	11	0	0	*
H. MAINT DIGITAL ANALOG VIDEO (DAV) TEST STATIONS & ASSOCIATED LRUs	*	*	*	21	0	0	*
I. MAINT RADAR/ELECTRONIC WARFARE (REW) TEST STATIONS & ASSOCIATED LRUs	*	*	0	20	0	0	0
J. MAINT ANALOG/DIGITAL TEST STATIONS (ADIT II) & ASSOCIATED LRUs	*	0	0	1	0	0	0
K. MAINT MANUAL SUPPORT EQUIPMENT & ASSOCIATED LRUs	6	1	8	1	0	0	1
L. MAINT TEST BRANCH PANELS	*	*	0	*	0	0	*
M. MAINT RADIO FREQUENCY (RF) TEST STATIONS & ASSOCIATED LRUs	9	3	0	*	0	0	1
N. MAINT COMPUTER INERTIAL (CI) TEST STATIONS & ASSOCIATED LRUs	12	4	0	*	0	0	1
O. MAINT DISPLAYS/INDICATORS (D/I) TEST STATIONS & ASSOCIATED LRUs	9	1	0	*	0	0	*

TABLE 3 (CONTINUED)

AVERAGE TIME SPENT ON DUTIES BY CAREER LADDER JOBS

	F-16 AVIONICS & ELECTRONIC TECH (N=436)	F-117 AVIONICS TECH (N=32)	A-10 AVIONICS TECH (N=15)	B-1B AVIONICS (N=116)	TRAINING (N=8)	PROGRAM MGR (N=5)	FIRSTLINE SUPVSR (N=67)
P. MAINT PROCESSOR/PNEUMATICS (P/P) TEST STATIONS & ASSOCIATED LRUs	10	29	0	*	*	0	1
Q. MAINT A-10 INTERMEDIATE AUTOMATIC TEST STATIONS (IATSs) & ASSOCIATED LRUs	*	0	21	0	*	0	*
R. MAINT A-10 SUPPORT EQUIPMENT	*	0	0	0	0	0	*
S. MAINT VAN 1 HOT MOCK-UPS & ASSOCIATED LRUs	0	0	0	0	0	0	*
T. MAINT VAN 4 TEST EQUIP & ASSOCIATED LRUs	0	0	0	0	0	0	*
U. MAINT F-117 CONSOLIDATED AUTOMATED TEST EQUIP (CATE) & ASSOCIATED LRUs	0	0	*	0	0	0	*
V. MAINT F-117 INERTIAL NAVIGATION TEST SETS & ASSOCIATED LRUs	0	0	0	0	0	0	*
W. PERFORMING CORE AUTOMATED MAINTENANCE SYS (CAMS) FUNCTIONS	6	8	8	7	*	3	8

TABLE 4

SELECTED BACKGROUND DATA FOR AFSC 2A0X1B CAREER LADDER JOBS

		F-16 AVIONICS & ELECTRONIC TECH	F-117 AVIONICS TECH	A-10 AVIONICS TECH	B-1B AVIONICS	TNG	PROGRAM MGR	FIRST LINE SUPV
NUMBER IN GROUP	436		32		15	116	8	67
PERCENT OF SAMPLE	59%		4%		2%	16%	2%	9%
DAFSC DISTRIBUTION:								
2A031B	11%	9%	0%		40%	0%	0%	0%
2A051B	59%	66%	40%		41%	75%	20%	6%
2A071B	30%	25%	60%		19%	25%	80%	88%
PAYGRADE DISTRIBUTION:								
E-1 to E-3	7%	0%	0%		35%	0%	0%	0%
E-4	27%	28%	7%		25%	25%	0%	0%
E-5	37%	50%	40%		24%	75%	20%	10%
E-6	21%	19%	33%		15%	0%	20%	33%
E-7	8%	3%	20%		1%	0%	40%	49%
E-8								
AVERAGE TASKS PERFORMED	189	115	140		184	16	32	130
AVERAGE MONTHS TAFMS	106	78	119		61	132	173	194
PERCENT IN FIRST ENLISTMENT	31%	44%	13%		54%	0%	0%	3%
PERCENT SUPERVISING	32%	22%	47%		32%	0%	20%	94%

Respondents in these jobs predominantly hold the 5-skill level. Thirty-one percent are in their first enlistment. Their average Total Active Federal Military Service (TAFMS) is 106 months. Incumbents report being on Active Duty, as well as in the Air National Guard and the Reserves. Eighty-four percent are assigned CONUS.

There are six jobs in the cluster. The first is a job that focuses on F-16 RF Test Station maintenance. These technicians perform an average of 102 tasks dealing with troubleshooting, repairing, adjusting, and replacing RF test stations and equipment. Incumbents have an average of 108 months in service. Fifty-seven percent hold the 5-skill level, 40 percent hold the 7-skill level and the remaining 3 percent hold the 3-skill level.

In the second job, incumbents focus on maintaining F-16 P/P Test Stations. They perform an average of 114 tasks, including adjusting P/P test station tester replaceable units (TRUs), troubleshooting remote interface units, repairing programmable signal processors, and performing diagnostic tests of P/P test stations. Members with this job average 85 months in service and the majority hold the 5-skill level.

Members of this job, are distinguished from the previous two jobs by the time they spend maintaining F-16 D/I Test Stations. Primary responsibilities include troubleshooting head up display (HUD) programmable display units, aligning D/I test stations, troubleshooting HUD electronic units, adjusting D/I test station TRUs, and calibrating D/I test stations. The majority of incumbents hold the 5-skill level and average 91 months in service.

The fourth job, F-16 CI Test Station Technician, is distinguished from the previous jobs by the amount of time spent maintaining CI Test Stations and associated LRUs. Members perform an average of 134 tasks. This job includes troubleshooting, aligning and repairing CI test station TRUs. Like the previous job, the majority of members hold the 5-skill level. They average 93 months TAFMS.

The fifth job within this cluster is the F-16 Multi-Avionics Test Station and Electronic Technicians job. The distinguishing tasks for this job include confidence testing RF test stations, troubleshooting interface test adapters (ITAs), inspecting test equipment, troubleshooting RF test stations, confidence testing CI test stations, and diagnostic testing RF test stations. The average time in service is 117 months. This job is also much broader than the previous jobs in that members perform an average of 242 tasks.

The final job of the cluster is F-16 Manual Support Equipment Specialist. Primary responsibilities include troubleshooting, bench checking, repairing and aligning ultrahigh frequency (UHF) receiver-transmitters, and bench checking and repairing throttle grips. Members average 81 months TAFMS and the majority hold the 5-skill level.

II. F-117 AVIONICS TECHNICIAN IJT (STG104, N=32). This job primarily involves the maintenance of F-117 aircraft and associated LRUs. This job is distinguished from the previous job by the time members spend in Duty P, Maintaining Processor/Pneumatics (P/P) Test Stations and Associated LRUs (29 percent, see Table 3). This is a somewhat broad job as the AFSC 2A0XB1 personnel with it perform an average of 115 tasks, including the following:

- load and verify OFP into line replaceable units (LRUs)
- perform ITA wrapharound tests
- confidence test P/P test stations
- perform functional checks of LRUs issued from supply
- clean test stations
- clean shop facilities
- align P/P test stations
- operationally check interface test adapters (ITAs)
- operationally check remote interface units (RIUs)
- troubleshoot RIUs
- repair ITAs
- diagnostic test P/P test stations
- repair ITAs
- perform periodic inspections of test stations

The average TAFMS for incumbents is 78 months. Ninety-one percent possess the 5- or 7-skill level. The vast majority of these members (78 percent) hold the paygrade of E-4 or E-5. Forty-four percent are in their first enlistment, and like the first job members are in Active, Guard or Reserve units.

III. A-10 AVIONICS TECHNICIANS IJT (STG117, N=15). The most distinguishing feature of this job compared to the previous jobs is the performance of tasks related to the A-10 aircraft and associated LRUs and aircraft systems. Incumbents spend 21 percent of their time on Duty Q, Maintaining A-10 Intermediate Automatic Test Stations (IATS) and Associated LRUs (see Table 3). Members with this job are distinguished by the time they spend on the following tasks:

- operationally check IMUs or INUs
- operationally check interface test adapters (ITAs)
- operationally check air data computers (ADCs) or CADCs
- operationally check control display units (CDUs)
- troubleshoot EPUs
- internally self-test IATSs
- repair EP
- operationally check electronic processing units (EPUs)

- troubleshoot MBCs
- clean test stations
- operationally check master bus controllers (MBCs)
- repair DDUs
- troubleshoot DDUs
- troubleshoot UDUs

Sixty percent of the incumbents possess the 7-skill level and only 13 percent are in their first enlistment. They perform an average of 140 tasks. No personnel report a paygrade of E1-E3. The average TAFMS is 119 months. One hundred percent report being in bases overseas. Unlike the previous jobs, members report being only on Active Duty.

IV. B-1B AVIONICS CLUSTER (GP036, N=116). This cluster is comprised of four B-1B Test Station jobs. The tasks in each job involve the operation, testing and repair of a specific test station and LRU for each test station. The 116 members perform an average of 184 tasks. B-1B avionics technicians are easily distinguished by the time they spend performing the following tasks:

- perform ITA wraparound tests
- perform periodic inspections of test stations
- remove or replace test station SRUs
- clean test stations
- inspect test equipment
- remove or replace pins or connectors
- repair test stations
- execute FIND ALIGN
- clean shop facilities
- access core automated maintenance system (CAMS) menus and data screens
- maintain test equipment
- interpret diagrams, such as system, schematic, and fault isolation
- troubleshoot using system editor (SYSEDIT)

B-1B Avionics job members average 61 months in the career field. The predominant paygrade is E-1 through E-3. Members are assigned to the Guard, as well as Active Duty. Ninety-eight percent report being in CONUS. Only 19 percent hold the 7-skill level.

There are four jobs in this cluster. The first is the B-1B Avionics R/EW Test Specialist. Tasks performed include diagnostic testing, troubleshooting, and aligning R/EW test stations. The majority of the members are in the 3- or 5-skill level. They average 58 months in TAFMS.

The primary responsibilities of incumbents in this second job, B-1B Avionics Test Station Technician, include performing ITA wraparound tests, repairing test stations, troubleshooting ITAs, troubleshooting using system editor, removing or replacing test station SRUs, and interpreting diagrams, such as schematics, and fault isolation. Seventy-one percent report holding the 5-skill level while the remaining 29 percent hold the 7-skill level. These incumbents average 37 months TAFMS.

The third job of the cluster is the B-1B Avionics DAV Test Station Technicians job. This job is the broadest in the cluster because incumbents perform an average of 272 tasks. Their job includes diagnostic testing, troubleshooting, and aligning DAV test stations, repairing test stations, and inspecting test equipment. Almost half of the incumbents hold the 5-skill level. The average TAFMS is 69 months.

The final job of the cluster is the B-1B Avionics DIG Test Station Technicians job. The distinguishing tasks for this job include operationally checking engine instrument signal conditioners, repairing Fuel Center of Gravity Management System intermediate devices, troubleshooting control and display panels, and repairing Central Integrated Test Data airborne printers. Seventy-seven percent hold the 3-skill level and the average time in TAFMS is 49 months.

V. TRAINING IJT (STG094, N=8). The personnel working in the Training job spend 86 percent of their time in various training duties and are responsible for providing formal training to career ladder incumbents. This job is distinguished from the rest of the career ladder by the following training tasks personnel perform:

- prepare lesson plans
- write test questions
- conduct resident course classroom training
- administer or score tests
- evaluate resident course students
- develop training aids

Incumbents average 132 months TAFMS. The majority of these members hold the rank of E-5, and hold the 5-skill level. Members all report being on Active Duty and are in CONUS. They perform an average of only 16 tasks.

VI. PROGRAM MANAGERS IJT (STG075, N=5). This nontechnical job was distinguished because incumbents spend nearly all their time on supervisory and administrative duties. They include determining equipment requirements, planning briefings, participating in meetings, and evaluating suggestions, budgets, and technical order (TO) reports. These functions are shown by the following tasks members with this job spend most time performing:

- evaluate suggestions
- determine requirement for space, personnel, equipment or supplies
- write staff studies, surveys, or special reports, other than training reports
- participate in meetings, such as staff meetings, briefings, conferences, or workshops
- plan equipment or facility maintenance requirements
- interpret policies, directives, or procedures for subordinates
- plan briefings
- evaluate TO improvement reports

Incumbents average 173 months TAFMS. The paygrades range from E-4 through E-6. Eighty percent of the members hold the 7-skill level. Sixty percent report being in CONUS and all personnel are on Active Duty.

VII. FIRST-LINE SUPERVISORS IJT (STG050, N=67). This nontechnical job is distinguished from the previous nontechnical job by the amount of time spent on personnel management. Incumbents supervise, counsel and evaluate personnel. As shown in Table 3, members spend 61 percent of their relative job time in Duties A through C, from organizing and planning to directing and implementing. Representative tasks for this job include:

- counsel personnel on personal or military-related matters
- determine work priorities
- coordinate maintenance work with appropriate personnel or agencies
- participate in meetings, such as staff meetings, briefings, conferences or workshops
- assign maintenance and repair work
- write recommendations for awards or decorations
- establish performance standards for subordinates
- plan or schedule work priorities
- determine requirements for space, personnel, equipment or supplies
- plan work assignments
- conduct performance feedback worksheet sessions

This is the most senior job in the ladder. Members average 194 months in the service. The predominant paygrade is E-8. Most members belong to ACC, however, many other MAJCOMs are also represented, as well as the Guard and Reserve. Eighty-five percent report being in CONUS. More members hold the 7-skill level than any other previous job.

Comparison of Current Job Structure to Previous Studies

The results of the specialty job analysis were compared to those of the last two Avionic Test Station and Components OSRs published in 1990. As shown in Table 5, six jobs in the current study were also identified in the 1990 studies. One job, F-117 Avionics Technician, however, was identified in this survey but not identified in either of the 1990 surveys, because the aircraft is relatively new to the inventory.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as AFMAN 36-2108 *Specialty Descriptions* and the STS, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the Specialty Jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups. A typical pattern of progression is present, with personnel spending more of their relative time on duties involving supervisory, managerial, and training tasks as they move upward toward the 7-skill level. It is also obvious that 7-skill level personnel are still involved with technical task performance, as will be pointed out in the specific skill-level group discussions below.

Skill-Level Descriptions

DAFSC 2A0X31B. The 101 3-skill level airmen (representing 14 percent of the survey sample) perform an average of 146 tasks. Performing a diverse and technical job, members spend 33 percent of their time performing general avionics maintenance, 11 percent maintaining DAV test stations and associated LRUs, and 10 percent maintaining R/EW test stations and associated LRUs (See Table 7). Table 8 displays representative tasks performed by the highest percentages of these airmen.

DAFSC 2A051B. The 367 5-skill level airmen (50 percent of the survey sample) perform an average of 159 tasks. At the 5-skill level members perform a greater diversity of jobs than the 3-skill levels as shown in Table 6. As with 3-skill level personnel, the largest percentages of these incumbents are working in the F-16 Avionics and Electronics Technician Job (70 percent). Time on duties shows a slight increase in time spent on supervisory duties (See Table 7). Table

TABLE 5
SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1990 SURVEYS

<u>CURRENT SURVEY (N=741)</u>	F-16/A10 TEST STATION & COMPONENTS SPECIALTY <u>1990 SURVEY (N= 540)</u>	B-1B TEST STATION & COMPONENTS SPECIALTY <u>1990 SURVEY (N=216)</u>
F-16 AVIONICS & ELECTRONIC TECH	F-16 TEST STATION	*
F-117 AVIONICS TECH	*	*
A-10 AVIONICS TECHNICIAN	A-10 AVIONICS	*
B-1B AVIONICS	*	AUTOMATIC TEST STATION (ATS) MAINTENANCE
TRAINING	TRAINING	TRAINING INSTRUCTOR
PROGRAM MANAGERS	SUPERVISORY, MANAGERIAL, & ADMINISTRATIVE	*
FIRST-LINE SUPERVISORS	SUPERVISORY, MANAGERIAL & ADMINISTRATIVE	SUPERVISORY

* Denotes jobs not related to AFSC

TABLE 6

**DISTRIBUTION OF MEMBERS BY DAFSC ACROSS
CAREER LADDER JOBS (PERCENT MEMBERS RESPONDING)**

<u>JOB</u>	<u>DAFSC 2A031B N=101</u>	<u>DAFSC 2A051B N=367</u>	<u>DAFSC 2A071B N=269</u>
F-16 AVIONICS & ELECTRONICS TECH	47	70	49
F-117 AVIONICS TECH	3	6	3
A-10 AVIONICS TECH	0	2	3
B-1B AVIONICS	46	13	8
TRAINING	0	2	1
PROGRAM MANAGERS	0	*	1
FIRST-SUPERVISOR	0	1	22
NOT GROUPED	4	6	13

TABLE 7

**TIME SPENT ON DUTIES BY MEMBERS OF DAFSC GROUPS
(RELATIVE PERCENT OF JOB TIME)**

<u>DUTIES</u>	DAFSC 2A031B (N=101)	DAFSC 2A051B1 (N=367)	DAFSC 2A0171B (N=269)
A. ORGANIZING AND PLANNING	1	3	12
B. DIRECTING AND IMPLEMENTING	1	2	8
C. EVALUATING AND INSPECTING	1	2	9
D. TRAINING	*	3	5
E. PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	5	6	9
F. PERFORMING GENERAL AVIONICS MAINTENANCE	33	34	23
G. MAINTAINING DIGITAL (DIG) TEST STATIONS AND ASSOCIATED LINE REPLACEABLE UNITS (LRUs)	6	2	1
H. MAINTAINING DIGITAL ANALOG VIDEO (DAV) TEST STATIONS AND ASSOCIATED LRUs	11	3	2
I. MAINTAINING RADAR/ELECTRONIC WARFARE (R/EW) TEST STATIONS & ASSOCIATED LRUs	10	3	1
J. MAINTAINING ANALOG/DIGITAL TEST STATIONS (ADIT II) & ASSOCIATED LRUs	*	*	*
K. MAINTAINING MANUAL SUPPORT EQUIPMENT AND ASSOCIATED LRUs	4	5	3
L. MAINTAINING TEST BRANCH PANELS	*	*	*
M. MAINTAINING RADIO FREQUENCY (RF) TEST STATIONS & ASSOCIATED LRUs	4	6	5
N. MAINTAINING COMPUTER INERTIAL (CI) TEST STATIONS & ASSOCIATED LRUs	6	9	5
O. MAINTAINING DISPLAYS/INDICATORS (D/I) TEST STATIONS & ASSOCIATED LRUs	5	7	4
P. MAINTAINING PROCESSOR/PNEUMATICS (P/P) TEST STATIONS AND ASSOCIATED LRUs	5	7	5
Q. MAINTAINING A-10 INTERMEDIATE AUTOMATIC TEST STATIONS (IATSs) AND ASSOCIATED LRUs	*	*	1
R. MAINTAINING A-10 SUPPORT EQUIPMENT	*	*	*
S. MAINTAINING VAN 1 HOT MOCK-UPS AND ASSOCIATED LRUs	*	*	*
T. MAINTAINING VAN 4 TEST EQUIPMENT AND ASSOCIATED LRUs	*	*	*
U. MAINTAINING F-117 CONSOLIDATED AUTOMATIC TEST EQUIPMENT (CATE) AND ASSOCIATED LRUs	*	*	*
V. MAINTAINING F-117 INERTIAL NAVIGATION TEST SETS & ASSOCIATED LRUs	*	*	*
W. PERFORMING CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) FUNCTIONS	7	7	6

* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

TABLE 8**REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A031B PERSONNEL**

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING N=101</u>
F234 Perform ITA wraparound tests	89
F191 Clean test stations	89
F237 Perform periodic inspections of test stations	88
W1382 Access core automated maintenance system (CAMS) menus and data screens	85
F189 Clean shop facilities	84
F248 Remove or replace pins or connectors	84
F205 Interpret diagrams, such as system, schematic, and fault isolation	82
F204 Inspect test equipment	82
F253 Remove or replace test station SRUs	82
F197 Fabricate or repair cables	82
F214 Maintain test equipment	81
F233 Perform functional checks of LRUs issued from supply	79
W1387 Clear or close out completed maintenance discrepancies in CAMs	79
W1385 Change CAMs workcenter event narratives	77
F219 Operationally check interface test adapters (ITAs)	76
F279 Repair test stations	73
W1389 Conduct CAMs interface with base supply systems	71
F252 Remove or replace test station minor hardware	69
F210 Load control and support software	69
F195 Execute FIND ALIGN	69
F215 Maintain tool boxes or CTKs	68
F230 Perform corrosion control on avionics equipment	68
F292 Troubleshoot ITAs	67
E138 Inventory tools, such as consolidated tool kits (CTKs)	66
F211 Load test programs on discs	66
F264 Repair ITAs	66
F305 Troubleshoot using system editor (SYSEDIT)	65
F187 Clean or lubricate shop support equipment or components	62
F254 Remove or replace test station tester replaceable units (TRUs)	61
F201 Inspect common support equipment	59
W1383 Analyze CAMs data	59

9 displays representative tasks performed by the highest percentages of these airmen. Members are distinguished from their 3-skill level counterparts by the greater number of tasks and the small amount of supervision they perform (see Table 10).

DAFSC 2A071B. The NCOs in the 7-skill level group (36 percent of the survey sample) perform an average of 171 tasks. Forty-three percent of their relative job time is spent on the usual supervisory, managerial, and training duties (see Table 7). While the display of tasks in Table 11 clearly shows supervisory responsibilities, it also reflects a technical job as well. Table 12 displays those tasks that more clearly differentiate between the 5- and 7-skill level groups. These tasks focus on managing some maintenance functions, counseling personnel, supervision, and planning work assignments.

Summary

Three- and 5-skill level airmen perform many tasks in common, and both groups spend the vast majority of their relative job time on technical AFSC-specific maintenance tasks. The 7-skill level group performs many supervisory and management tasks, as well as the technical tasks performed by 3- and 5-skill level members.

ANALYSIS OF AFMAN 36-2108 SPECIALTY DESCRIPTIONS

Survey data were compared to the final draft of the AFMAN 36-2108 *Specialty Description* for Avionic Test Station and Components, dated 30 April 1991. This specialty description is intended to provide a broad overview of the duties and responsibilities of each skill level. In general, the specialty descriptions cover tasks and jobs performed by career ladder personnel.

The combined 3- and 5-skill level *Specialty Descriptions* appear complete and accurately portrays the range and technical nature of the job. The description for the craftsman (AFSC 2A071B) accurately reflects both the supervisory and the previously discussed technical nature of the job.

TRAINING ANALYSIS

Occupational surveys provide sources of information that can be used to assist in the development of training programs relevant to the needs of personnel in their first enlistment. Factors that may be used in evaluating training include the overall description of the job being

TABLE 9**REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A051B PERSONNEL**

<u>TASKS</u>	PERCENT MEMBERS PERFORMING (N=367)
F189 Clean shop facilities	90
F191 Clean test stations	87
F234 Perform ITA wraparound tests	84
F237 Perform periodic inspections of test stations	83
F205 Interpret diagrams, such as system, schematic, and fault isolation	80
F279 Repair test stations	80
F253 Remove or replace test station SRUs	80
F204 Inspect test equipment	79
F214 Maintain test equipment	79
E138 Inventory tools, such as consolidated tool kits (CTKs)	79
W1382 Access core automated maintenance system (CAMS) menus and data screens	78
F233 Perform functional checks of LRUs issued from supply	78
F248 Remove or replace pins or connectors	78
F219 Operationally check interface test adapters (ITAs)	76
F210 Load control and support software	75
F211 Load test programs on discs	75
F264 Repair ITAs	75
F196 Execute FIND ALIGN	74
F197 Fabricate or repair cables	73
F209 Load and verify OFP into line replaceable units (LRUs)	72
W1387 Clear or close out completed maintenance discrepancies in CAMS	72
F215 Maintain tool boxes or CTKs	71
F292 Troubleshoot ITAs	70
F252 Remove or replace test station minor hardware	68
F183 Analyze abbreviated test language for all systems (ATLAS) programs for troubleshooting	66
F254 Remove or replace test station tester replaceable units (TRUs)	66
F230 Perform corrosion control on avionics equipment	66
E136 Attach or annotate equipment status labels or tags	66
F282 Secure classified materials	65
F187 Clean or lubricate shop support equipment or components	65
W1385 Change CAMS workcenter event narratives	65
E163 Research microfiche or FEDLOG stock files for parts information	65
F202 Inspect equipment for current calibration dates	65

TABLE 10

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 2A031B AND DAFSC 2A051B PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	2A031B (N=101)	2A051B (N=367)	DIFFERENCE
F235 Perform nuclear hardness maintenance or inspections	37	10	27
F239 Perform periodic inspections on oil cooling carts	28	11	17
F270 Repair oil cooling carts	23	7	16
I640 Diagnostic test R/EW test stations	23	10	13
W1385 Change CAMS workcenter event narratives	77	65	12
I637 Calibrate R/EW test stations	21	9	12
I635 Align R/EW test stations	21	10	11
W1389 Conduct CAMS interface with base supply systems	71	60	11
I682 Repair band 7 drivers	16	5	11
<hr/>			
D110 Conduct on-the-job training (OJT)	11	46	-35
A8 Determine work priorities	16	46	-30
W1403 Load LRU part numbers or serial numbers in CAMS	23	49	-26
C71 Certify status of repairable, serviceable, or condemned parts	12	38	-26
D128 Maintain training records, charts, or graphs	10	33	-23
B64 Supervise Avionics Test Station and Component Apprentice, F-16/F-117/A-10/B-1B (AFSC 2A031B)	4	26	-22
F232 Align patch panels	36	57	-21
F182 Align patch panels	30	51	-21
F209 Load and verify OFP into line replaceable units (LRUs)	52	72	-20
A27 Plan or schedule work priority	7	27	-20

TABLE 11
REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A071B PERSONNEL

<u>TASKS</u>	PERCENT MEMBERS PERFORMING (N=269)
A23 Participate in meetings, such as staff meetings, briefings, conferences, or workshops	73
A8 Determine work priorities	73
E138 Inventory tools, such as consolidated tool kits (CTKs)	72
W1382 Access core automated maintenance system (CAMS) menus and data screens	68
D110 Conduct on-the-job training (OJT)	67
E164 Research technical data for part numbers	67
E163 Research microfiche or FEDLOG stock files for parts information	66
F205 Interpret diagrams, such as system, schematic, and fault isolation	66
A1 Assign maintenance and repair work	65
E136 Attach or annotate equipment status labels or tags	65
F279 Repair test stations	65
F234 Perform ITA wraparound tests	65
F214 Maintain test equipment	64
F237 Perform periodic inspections of test stations	64
F189 Clean shop facilities	64
F191 Clean test stations	63
C71 Certify status of repairable, serviceable, or condemned parts	62
E158 Perform security checks of tools, equipment, or facilities	62
F211 Load test programs on discs	62
F210 Load control and support software	62
F215 Maintain tool boxes or CTKs	62
F253 Remove or replace test station SRUs	61
F248 Remove or replace pins or connectors	61
W1387 Clear or close out completed maintenance discrepancies in CAMS	61
F204 Inspect test equipment	61
F196 Execute FIND ALIGN	60
F197 Fabricate or repair cables	60
F183 Analyze abbreviated test language for all systems (ATLAS) programs for troubleshooting	60
B65 Supervise Avionics Test Station and Component Journeyman, F-16/F-117/A-10/B-1B (AFSC 2A051B)	59
A5 Coordinate maintenance work with appropriate personnel or agencies	59
E162 Process DIFM items	59

TABLE 12

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 2A051B AND DAFSC 2A071 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

<u>TASKS</u>	<u>2A051 (N=367)</u>	<u>2A071B (N=269)</u>	<u>2A071B (N=269)</u> <u>DIFFERENCE</u>
F189 Clean shop facilities	90	64	26
F191 Clean test stations	87	63	24
F233 Perform functional checks of LRUs issued from supply	78	58	20
F204 Inspect test equipment	79	60	19
F237 Perform periodic inspections of test stations	83	64	19
F234 Perform ITA wraparound tests	84	65	19
F209 Load and verify OFP into line replaceable units (LRUs)	80	61	19
B65 Supervise Avionics Test Station and Component Journeyman, F-16/F-117/A-10/B-1B (AFSC 2A051B)	17	59	-42
B42 Counsel subordinates on personal or military matters	21	58	-37
B66 Supervise Avionics Test Station and Component Craftsman, F-16/F-117/A-10/B-1B (AFSC 2A071B)	3	39	-37
A29 Plan work assignments	15	50	-35
B49 Direct shop maintenance activities	11	45	-34
A1 Assign maintenance and repair work	32	65	-33
C107 Write recommendations for awards and decorations	8	41	-33
A27 Plan or schedule work priorities	26	58	-32
B61 Interpret policies, directives, or procedures for subordinates	11	42	-31

performed by first-enlistment personnel and their distribution across career ladder jobs. Percent members performing specific tasks or using certain equipment or tools are available for first-job (1-24 months TAFMS) or first-enlistment (1-48 months).

Training Emphasis (TE) and Task Difficulty (TD) Data

Training emphasis (TE) and task difficulty (TD) are secondary factors that can assist technical school personnel in deciding which tasks should be emphasized in entry-level training. These ratings, based on the judgments of senior career ladder NCOs working at operational units in the field, are collected to provide training personnel with a rank-ordering of those tasks in the JI considered important for first-enlistment personnel training (TE), along with a measure of the difficulty of the JI tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can then be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors, accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To assist technical school personnel, AFOMS has developed a computer program that incorporates these secondary factors and the percentage of first-enlistment personnel performing each task to produce an Automated Training Indicator (ATI) for each task. These indicators correspond to training decisions listed and defined in the Training Decision Logic Table found in Attachment 1, AETCR 52-22, and allow course personnel to quickly focus their attention on those tasks that are most likely to qualify for ABR course consideration.

Tasks having the highest TE ratings are listed in Table 13. Included for each task are the percentage of first-job and first-enlistment personnel performing and the TD rating. As illustrated by the tasks, most apply to the routine checks and maintenance of Communications-Computer Systems Operator when members are loading or unloading munitions.

Table 14 lists the tasks having the highest TD ratings. The percentages of first-job, first-enlistment, 5-, and 7-skill level personnel performing, and the TE rating are also included for each task. The majority of tasks with high difficulty are not performed by high percentages of any group, but four tasks have fairly high TE ratings. Many of the tasks with high TD values are related to isolating malfunctions and other electrical tasks.

Various lists of tasks, accompanied by TE and TD ratings, and where appropriate, ATI information, are contained in the Training Extract package and should be reviewed in detail by technical school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the SURVEY METHODOLOGY section of this report.)

TABLE 13

TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS	PCT MEMBERS PERFORMING				
	TNG EMP	1ST JOB	1ST ENL	TSK DIF	
F234 Perform ITA wraparound tests	6.12	67	91	3.45	
F210 Load control and support software	5.90	65	72	4.31	
F211 Load test programs on discs	5.85	65	72	3.89	
F205 Interpret diagrams, such as system, schematic, and fault isolation	5.81	68	84	6.08	
F279 Repair test stations	5.81	65	81	5.66	
F183 Analyze abbreviated test language for all systems (ATLAS)	5.69	60	63	6.92	
F253 Remove or replace test stations SRUs	5.38	65	83	3.45	
F305 Troubleshoot using system editor (SYSEDIT)	5.37	57	66	6.39	
F237 Perform periodic inspections of test stations	5.37	66	90	4.42	
F292 Troubleshoot ITAs	5.21	59	74	5.51	
F219 Operationally check interface test adapters (ITAs)	5.12	61	79	3.76	
F209 Load and verify OFP into line replaceable units (LRUs)	5.10	58	64	3.38	
F197 Fabricate or repair cables	5.00	61	80	5.06	
F248 Remove or replace pins or connectors	4.92	62	88	5.05	
F281 Research TOs	4.92	55	58	4.02	
F286 Solder or desolder test station components	4.90	57	63	4.65	
F196 Execute FIND ALIGN	4.83	62	74	2.97	
F306 Troubleshoot using test executives	4.83	41	36	6.53	
F264 Repair ITAs	4.83	60	77	5.30	
F231 Perform electrostatic discharge (ESD) workstation inspections	4.67	50	51	3.28	

TE MEAN = .98; S.D. = 1.21 (HIGH = 2.19)
 TD MEAN = 5.00; S.D. = 1.00

TABLE 14

TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS	PERCENT MEMBERS PERFORMING					TNG EMP
	TSK DIF	1ST JOB	1ST ENL.	3C051	3C071	
I690 Repair bands 4-8 receivers	8.39	2	9	5	3	.48
I710 Troubleshoot band 6 transmitters	8.29	1	4	2	2	.31
I720 Troubleshoot band 8 transmitter-drivers	8.19	2	9	4	4	.21
I722 Troubleshoot bands 4-8 receivers	7.97	2	10	6	3	.58
I716 Troubleshoot band 7 transmitters	7.96	2	8	4	3	.46
U1336 Manipulate AIX operating system existing files	7.94	1	0	1	1	.23
I706 Troubleshoot band 6 ADRs	7.88	1	4	2	1	.21
I731 Troubleshoot RF DAAE	7.82	3	9	6	4	1.13
I698 Repair RF DAAE	7.81	3	9	6	4	.98
I675 Repair band 6 antenna-transmitters	7.78	1	3	2	1	.19
I712 Troubleshoot band 7 ADRs	7.76	1	4	2	1	.21
I718 Troubleshoot band 8 antenna-transmitters	7.76	1	4	2	1	.37
I711 Troubleshoot band 6/7/8 ADRs	7.74	1	5	3	1	.21
I707 Troubleshoot band 6 antenna-transmitters	7.74	1	3	2	1	.21
I726 Troubleshoot interferometer receivers	7.74	1	5	4	1	.21
I717 Troubleshoot band 8 ADRs	7.73	1	4	2	1	.21
I684 Repair band 7 transmitters	7.68	2	10	4	3	.38
I674 Repair band 6 ADRs	7.65	1	4	2	1	.19
I713 Troubleshoot band 7 antenna-transmitters	7.63	1	5	2	1	.31
A17 Draft budget or financial requirements	7.62	14	3	1	18	.44
I725 Troubleshoot interferometer antennas	7.61	1	3	2	1	.21

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = .98; S.D. = 1.21 (HIGH = 2.19)

First-Enlistment Personnel

In this study there are 219 active duty members in their first enlistment (1-48 months TAFMS), representing 30 percent of the survey sample. No Guard or Reserve Personnel are included in any of the year groups because their TAFMS records are different from the Active Duty members. As displayed in Table 15, approximately 85 percent of their duty time is devoted to technical functions. Figure 2 shows how all first-enlistment personnel are distributed across the jobs identified in the **SPECIALTY JOBS** section of this report. Of the 5 jobs identified, a vast majority of personnel (61 percent) are involved in the F-16 Avionics and Electronics activities.

Table 16 describes the work performed by these members with a listing of time spent in duties and the top tasks performed by them. The majority of the tasks displayed involve performing general avionics maintenance. Equipment utilized by 30 percent or more of first-job or first-enlistment personnel are listed in Table 17.

Specialty Training Standard (STS)

Training personnel from Sheppard AFB TX matched tasks in the JI to appropriate sections of the STS. A listing of the STS was then produced showing each STS paragraph and subparagraph, tasks matched, percent criterion group members performing, TE and TD ratings, and ATI. This listing is included in the Training Extract sent to the school for review. Criteria set forth in ATCR 52-22, Attachment 1, were used to review the relevance of each STS paragraph and subparagraph with matched tasks.

General STS elements, such as Security, AF Occupational Safety and Health Program, USAF Graduate Evaluation Program, Environmental Awareness and Compliance, Supervision, and Training (paragraphs 1 through 7) were not reviewed. Technical areas covering STS paragraphs 8 through 25 were thoroughly reviewed against OSR data. Typically, STS areas having matched tasks that have sufficiently high TE and TD ratings, and are performed by at least 20 percent of personnel in appropriate experience or skill-level groups (such as first-enlistment (1-48 months TAFMS) and 5- and 7-skill level groups), should be retained in the STS. On the other hand, STS areas having tasks with less than 20 percent performing across all of these groups should be considered for deletion.

Using this standard approach, a substantial portion of STS paragraphs did not have matched tasks with at least 20 percent members performing when compared to the total population criterion groups mentioned above. This lack of support across so many elements is no doubt due to the high degree of diversity among the jobs or functions performed within the career ladder. However, since the STS is intended to provide comprehensive coverage of tasks performed by career ladder personnel across all jobs or functions, it is critical that job-specific tasks be included in the STS.

TABLE 15
**RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY
FIRST-ENLISTMENT AFSC 2A0X1B PERSONNEL**

<u>DUTIES</u>	<u>PERCENT TIME SPENT</u>
A. ORGANIZING AND PLANNING	2
B. DIRECTING AND IMPLEMENTING	1
C. EVALUATING AND INSPECTING	1
D. TRAINING	6
E. PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY FUNCTIONS	5
F. PERFORMING GENERAL AVIONICS MAINTENANCE	34
G. MAINTAINING DIGITAL (DIG) TEST STATIONS AND ASSOCIATED LINE REPLACEABLE UNITS (LRUs)	4
H. MAINTAINING DIGITAL ANALOG VIDEO (DAV) TEST STATIONS AND ASSOCIATED LRUs	7
I. MAINTAINING RADAR/ELECTRONIC WARFARE (R/EW) TEST STATIONS AND ASSOCIATED LRUs	6
J. MAINTAINING ANALOG/DIGITAL TEST STATIONS (ADIT II) AND ASSOCIATED LRUs	*
K. MAINTAINING MANUAL SUPPORT EQUIPMENT AND ASSOCIATED LRUs	4
L. MAINTAINING TEST BRANCH PANELS	*
M. MAINTAINING RADIO FREQUENCY (RF) TEST STATIONS AND ASSOCIATED LRUs	6
N. MAINTAINING COMPUTER INERTIAL (CI) TEST STATIONS AND ASSOCIATED LRUs	8
O. MAINTAINING DISPLAYS/INDICATORS (D/I) TEST STATIONS AND ASSOCIATED LRUs	6
P. MAINTAINING PROCESSOR/PNEUMATICS (P/P) TEST STATIONS AND ASSOCIATED LRUs	6
Q. MAINTAINING A-10 INTERMEDIATE AUTOMATIC TEST STATIONS (IATSS) AND ASSOCIATED LRUs	*
R. MAINTAINING A-10 SUPPORT EQUIPMENT	*
S. MAINTAINING VAN 1 HOT MOCK-UPS AND ASSOCIATED LRUs	*
T. MAINTAINING VAN 4 TEST EQUIPMENT AND ASSOCIATED LRUs	*
U. MAINTAINING F-117 CONSOLIDATED AUTOMATIC TEST EQUIPMENT	*
V. MAINTAINING F-117 INERTIAL NAVIGATION TEST SETS AND ASSOCIATED LRUs	*

* Denotes less than 1 percent

NOTE: Time Spent does not total 100 percent due to rounding

AFSC 2A0X1B FIRST-ENLISTMENT JOBS

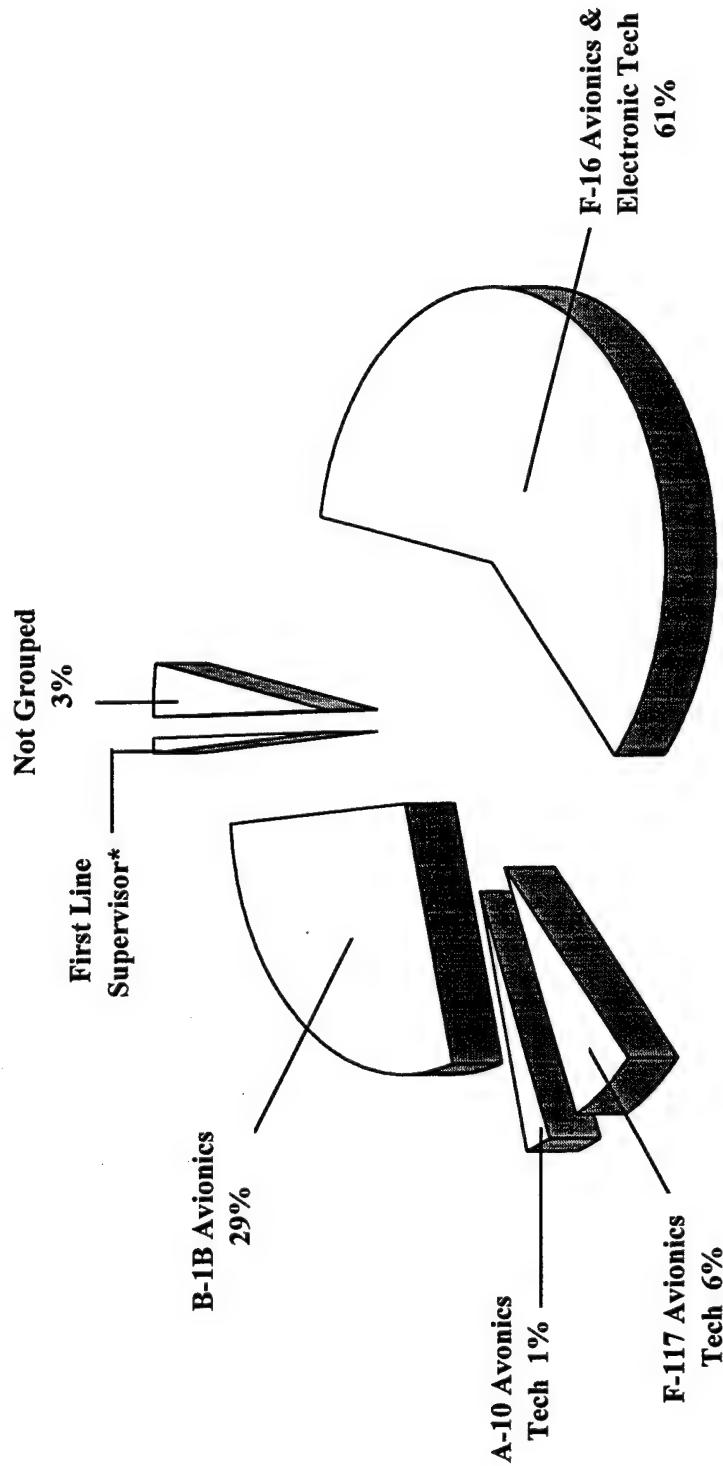


FIGURE 2

TABLE 16
REPRESENTATIVE TASKS PERFORMED BY
FIRST-ENLISTMENT AFSC 2A0X1B PERSONNEL

<u>TASKS</u>	PERCENT MEMBERS PERFORMING (N=219)
F191 Clean test stations	93
F234 Perform ITA wraparound tests	91
F189 Clean shop facilities	90
F237 Perform periodic inspections of test stations	90
F248 Remove or replace pins or connectors	88
W1382 Access core automated maintenance system (CAMS) menus & data screens	87
F205 Interpret diagrams, such as system, schematic, and fault isolation	84
F204 Inspect test equipment	84
F233 Perform functional checks of LRUs issued from supply	83
F214 Maintain test equipment	83
F253 Remove or replace test station SRUs	83
F279 Repair test stations	81
F197 Fabricate or repair cables	80
F219 Operationally check interface test adapters (ITAs)	79
W1387 Clear or close out completed maintenance discrepancies in CAMs	79
F264 Repair ITAs	77
W1385 Change CAMS workcenter event narratives	75
E138 Inventory tools, such as consolidated tool kits (CTKs)	75
F292 Troubleshoot ITAs	74
F196 Execute FIND ALIGN	74
F210 Load control and support software	72
F211 Load test programs on discs	72
F187 Clean or lubricate shop support equipment or components	71
F230 Perform corrosion control on avionics equipment	70
F252 Remove or replace test station minor hardware	70
W1389 Conduct CAMS interface with base supply systems	68

TABLE 17

**TEST EQUIPMENT AND TOOLS USED BY MORE THAN 30 PERCENT
OF FIRST-JOB OR FIRST-ENLISTMENT
2A0X1B PERSONNEL**

	2A0X1B 1ST JOB <u>(N=86)</u>	2A0X1B 1ST ENL <u>(N=219)</u>
Digital Voltmeters	95	95
Torque Wrenches	93	92
Soldering/Desoldering Tools	92	94
Oscilloscopes	92	94
Multimeters	91	94
Line Replaceable Unit Handling Fixtures	90	85
Power Supplies	86	87
Signal Generators	77	78
Dummy Loads	76	73
Connector Repair Kits	73	74
Generators, Pulse	69	60
Decade Resistors	65	67
Generators, Signal	64	69
Frequency Counters	60	69
Compressed Gas Bottles	60	71
Virginia Patch Panels	58	68
Disc Drive Head Alignment Kits	55	40
Pressure Regulators	52	55
Oil Cooling Carts	49	32
Analyzers, Spectrum	49	44
Theodolites	49	56
Electronic Counters	48	44
Disc Servo Kits	43	30
Radio Frequency (RF) Radiation Monitors	43	33
Disc Cleaners	42	32
Photometers	42	44
Portable Auto Test Equip Calibrators	40	34
Voltage and Current Standard Devices	38	36
Pressure Testers	37	39
North Seeking Gyro Test Sets	36	36
Air Cooling Carts	36	31
Digital Logic Probes	35	27
Boresight Reference Tools	35	41
Auxiliary Power Generators	35	30
Noise Oscillators	31	29
Milohmmeters	31	26
Watt Meters	31	42
Capacitor Testers	30	25
Synchro Standards	30	26
28 VDC Converters	28	32
Clinemeters	27	30
Analyzers, Distortion	17	33

This diversity and variety of jobs within the AFSC 2A0X1B career ladder therefore warrant a different approach or perspective in examining the STS to ensure that all major jobs are adequately covered in the STS. Thus, a second printout was created showing the clusters and job groups identified and corresponding percent members performing data for tasks matched to each STS paragraph. By using this method, 350 entries in the STS were not supported by OSR data. Examples of these entries are listed in Table 18. A complete listing of the STS paragraphs, with OSR data displayed for each of these jobs identified, can be found in the TRAINING EXTRACT report that accompanies this OSR. Training personnel and SMEs should review these areas closely to determine if continued inclusion in future revisions to the STS is warranted.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. Ninety-two technical tasks performed by more than 20 percent of criterion group members were not matched to the STS. The functional community and training personnel need to review these technical tasks for inclusion in the STS. They involve general avionics maintenance, DIG test station and associated LRU maintenance, manual support equipment and associated LRU maintenance, CI test stations and associated LRU maintenance, analog/digital test station and associated LRU maintenance, R/EW test stations and associated LRU maintenance, RF test stations and associated LRU maintenance, D/I test stations and associated LRU maintenance, P/P test station and associated LRU maintenance, A-10 IATS and associated LRU maintenance, A-10 support equipment maintenance, and performing CAMS functions (see Table 19).

JOB SATISFACTION ANALYSIS

An examination of the job satisfaction indicators of various groups can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. Questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in the survey booklet to provide indications of job satisfaction. The responses of the current survey sample were then analyzed by making several comparisons: (1) among TAFMS groups of the Avionics Test Station and Components career ladder and a comparative sample of personnel from other Logistics career ladders surveyed in 1994 (AFSCs 2A5X2, 2A6X4, 2A7X2, 2A7X4, 2E3X1, 2F0X1, and 2W1X1); (2) between current and previous survey experience groups; and (3) across specialty groups identified in the **SPECIALTY JOBS** section of the report.

Table 20 presents job satisfaction data for AFSC 2A0X1B TAFMS groups together with data for a comparative sample surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 2A0X1B personnel compares with similar Air Force specialties. Avionics Test Station and Components personnel reported very similar job satisfaction to members of the comparative sample. Overall, satisfaction for all three TAFMS groups in AFSC 2A0X1B is generally positive with no serious problems noted.

TABLE 18

**EXAMPLES OF STS ITEMS NOT SUPPORTED BY OSR DATA
(PERCENT MEMBERS PERFORMING)**

STS REFERENCE/TASKS	PERCENT MEMBERS PERFORMING						FIRST LINE SUPV
	F-16 A & E	F-117 TECH	A-10 AVIONICS TECH	B-1B AVIONICS	PROGRAM TNG	MGR	
12 B-1B DIG LRU MAINT							
12g Bomb Navigation Control							
<i>12g(2) Operational check</i>							
G318 Operationally check bomb navigation controls	0	0	0	0	0	0	0
20 F-117 CONSOLIDATED AUTOMATIC TEST EQUIPMENT							
20d(2) Perform off line analysis							
<i>20d(2)(a) Power Control Panel</i>							
U1348 Perform CATE TRU off-line analyses	0	0	0	0	0	0	0
25 A-10 MANUAL SUPPORT EQUIPMENT/LRU MAINT							
25f(6) Standby Altitude Indicator Test Set							
<i>25f(6)(c) Calibrate</i>							
R1255 Calibrate SAI test sets	0	0	0	0	0	0	0

TABLE 19

**EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE 2A0X1B
JOB GROUP MEMBERS BUT NOT REFERENCED BY STS
(PERCENT MEMBERS PERFORMING)**

	F-16 A&E TECH	F-117 AVIONICS TECH	A-10 AVIONICS TECH	B-1B AVIONICS	TNG	PROGRAM MGR	FIRST LINE SUPV
F217 Operationally check control display units	17	9	100	16	0	0	9
F234 Perform ITA wraparound tests	92	100	87	94	13	0	25
F264 Repair ITAs	84	94	80	77	0	0	18
H450 Calibrate DAV test stations	0	0	0	47	0	0	0
K754 Align A-10 projection units	1	0	67	0	0	0	1
K868 Repair INUs	18	6	73	3	0	0	3
M1071 Adjust RF test stations TRUs	61	16	0	6	0	0	12
M1098 Troubleshoot RF test stations	65	19	0	4	0	0	13
N1099 Adjust computer inertial test station TRUs	62	9	0	1	0	0	12
N1126 Repair F-16 FCCs	45	13	0	0	0	0	7
O1149 Adjust displays/indicators test station TRUs	64	3	0	1	0	0	9
O1175 Troubleshoot D/I test stations	65	6	0	1	0	0	9
P1181 Adjust processors/pneumatics test station TRUs	63	91	0	2	0	0	13
Q1218 Adjust CDU SRUs	1	0	87	0	0	0	3
Q1242 Use MATE operating systems	1	0	93	0	13	0	1
R1261 Inspect F-4 test benches	2	0	33	0	0	0	1
W1384 Change CAMS performing workcenter event narratives	56	41	40	60	0	0	48
W1390 Conduct CAMS training	21	22	47	17	13	0	30
W1403 Load LRU part numbers or serial numbers in CAMS	56	59	47	37	0	0	34

TABLE 20

**COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2A0X1B TAFMS GROUPS IN
CURRENT STUDY TO A COMPARATIVE SAMPLE (PERCENT MEMBERS RESPONDING)***

		1.48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
		1996 2A0X1B (N=219)	COMP SAMPLE (N= 3099)	1996 2A0X1B (N=161)	COMP SAMPLE (N= 2781)	1996 2A0X1B (N=361)	COMP SAMPLE (N= 5702)
EXPRESSED JOB INTEREST:							
INTERESTING							
SO-SO	65	69	66	61	61	74	69
DULL	16	18	17	26	26	14	22
PERCEIVED USE OF TALENTS:							
FAIRLY WELL TO PERFECT	77	68	79	70	70	83	79
NONE TO VERY LITTLE	22	32	20	29	29	17	21
PERCEIVED USE OF TRAINING:							
FAIRLY WELL TO PERFECT	86	82	83	84	84	80	79
NONE TO VERY LITTLE	14	11	17	14	14	19	16
SENSE OF ACCOMPLISHMENT FROM JOB:							
SATISFIED	63	68	73	68	68	71	73
NEUTRAL	17	17	11	15	15	11	11
DISSATISFIED	20	15	16	16	16	18	15
REENLISTMENT INTENTIONS:							
YES OR PROBABLY YES	68	65	79	80	80	80	76
NO OR PROBABLY NO	31	34	20	19	19	7	6
WILL RETIRE	1	0	1	*	*	13	18

Comparative data are from AFSCs 2A5X2, 2A6X4, 2A7X2, 2A7X4, 2E3X1, 2F0X1, and 2W1X1 surveyed in 1994

NOTE : Columns may not add to 100 percent due to rounding or nonresponse.

Comparison of job satisfaction responses of the current survey TAFMS groups to TAFMS groups in the 1990 surveys of AFSC 451X5 and 451X7 groups (see Table 21) indicate that generally the current responses are higher in the 49-96 months TAFMS groups and the 97+ months TAFMS groups than the 1990 responses of AFSC 451X5 and 451X7 respondents. Biggest improvements can be seen in the "Perceived Use of Training" and "Sense of Accomplishment from Job" categories.

An examination of job satisfaction data can also reveal the influences performing certain jobs may have on overall job satisfaction. Table 22 presents job satisfaction data for the major jobs identified in the career ladder structure for AFSC 2A0X1B. Job satisfaction indicators for the F-16 Avionics and Electronics Technician and the First-Line Supervisors Jobs were the lowest for any of the jobs, while the F-117 Avionics Technician and Training Jobs had the highest indicators.

IMPLICATIONS

As explained in the **INTRODUCTION**, this survey was conducted primarily to provide training personnel with current information on the Avionic Test Station and Components career ladder for use in reviewing current training programs and training documents. Overall job progression is normal and shows a distinct pattern as one moves from the 3- to the 7-skill level. The AFMAN 36-2108 *Specialty Description* broadly describes the jobs and tasks being performed. Job satisfaction is fairly high, and no serious problem areas were noted. Analyses of career ladder documents indicate the STS should be thoroughly revised.

TABLE 21

**COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2A0X1B TAFMS GROUPS IN
CURRENT STUDY TO PREVIOUS STUDIES (PERCENT MEMBERS RESPONDING)**

		1-48 MONTHS TAFMS			49-96 MONTHS TAFMS			97+ MONTHS TAFMS		
		1996 2A0X1B	1990 451X5	1990 451X7	1996 2A0X1B	1990 451X5	1990 451X7	1996 2A0X1B	1990 451X5	1990 451X7
		(N=219)	(N=114)	(N=92)	(N=161)	(N=173)	(N=43)	(N=361)	(N=253)	(N=79)
EXPRESSED JOB INTEREST:										
INTERESTING	65	76	71	66	68	70	74	72	63	
SO-SO	16	13	12	17	13	16	14	16	24	
DULL	18	11	17	17	13	16	12	12	13	
PERCEIVED USE OF TALENTS:										
FAIRLY WELL TO PERFECT	77	82	73	79	78	82	83	82	75	
NONE TO VERY LITTLE	22	18	27	20	21	19	17	19	25	
PERCEIVED USE OF TRAINING:										
FAIRLY WELL TO PERFECT	86	70	75	83	70	79	80	75	72	
NONE TO VERY LITTLE	14	30	25	17	29	21	19	25	28	
SENSE OF ACCOMPLISHMENT FROM JOB:										
SATISFIED	63	73	63	73	64	58	71	66	56	
NEUTRAL	17	11	11	11	12	7	11	11	8	
DISSATISFIED	20	17	26	16	24	24	18	23	37	
RE-ENLISTMENT INTENTIONS:										
YES OR PROBABLY YES	68	56	55	79	65	74	80	76	71	
NO OR PROBABLY NO	31	44	45	20	34	26	78	16	15	
WILL RETIRE	1	0	0	1	0	0	13	8	13	

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 22

**JOB SATISFACTION INDICATORS FOR AFSC 2A0X1B JOB GROUPS
(PERCENT MEMBERS RESPONDING)**

	F-16 A & E TECH STG038	F-117 AVIONICS TECH STG104	A-10 AVIONICS TECH SIG117	B-1B AVIONICS GP036	TNG STG024	PROGRAM MGR STG075	FIRST LINE SUPV STG050
EXPRESSED JOB INTEREST							
INTERESTING	67	78	87	76	88	80	67
SO-SO	14	19	7	17	13	0	16
DULL	18	3	7	7	0	20	16
PERCEIVED USE OF TALENTS							
FAIRLY WELL TO PERFECT	78	94	80	88	88	80	86
NONE TO VERY LITTLE	22	6	20	11	12	20	13
PERCEIVED USE OF TRAINING							
FAIRLY WELL TO PERFECT	83	97	93	87	100	80	83
NONE TO VERY LITTLE	17	3	7	13	0	20	16
SENSE OF ACCOMPLISHMENT FROM JOB							
SATISFIED	68	81	87	74	75	100	64
NEUTRAL	12	13	7	15	13	0	9
DISSATISFIED	20	6	6	11	12	0	25
REENLISTMENT INTENTIONS							
YES OR PROBABLY YES	80	72	73	77	88	60	64
NO OR PROBABLY NO	16	28	27	22	0	20	12
WILL RETIRE	4	0	0	1	13	20	24

APPENDIX A

**REPRESENTATIVE TASKS PERFORMED BY
MEMBERS OF CAREER LADDER JOBS**

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TABLE A1
F-16 AVIONICS & ELECTRONIC TECHNICIAN CLUSTER
(STG038)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING (N=436)</u>
F189 Clean shop facilities	94
F191 Clean test stations	94
F237 Perform periodic inspections of test stations	93
F209 Load and verify OFP into line replaceable units (LRUs)	91
F234 Perform ITA wraparound tests	91
F233 Perform functional checks of LRUs issued from supply	91
F205 Interpret diagrams, such as system, schematic, and fault isolation	89
F253 Remove or replace test stations SRUs	89
F214 Maintain test equipment	88
F279 Repair test stations	88
F248 Remove or replace pins or connectors	87
F211 Load test programs on discs	86
F210 Load control and support software	85
E138 Inventory tools, such as consolidated tool kits (CTKs)	84
F204 Inspect test equipment	84
F264 Repair ITAs	84
F215 Maintain tool boxes or CTKs	83
W1382 Access core automated maintenance system (CAMS) menus and data screens	
W1387 Clear or close out completed maintenance discrepancies in CAMS	78
F282 Secure classified materials	78
F230 Perform corrosion control on avionics equipment	76
N1102 Confidence test CI test stations	73
P1184 Confidence test P/P test stations	73
O1154 Confidence tests D/I test stations	73
M1074 Confidence test RF test stations	73
W1385 Change CAMS workcenter event narratives	71
E164 Research technical data for part numbers	71
E163 Research microfiche or FEDLOG stock files for parts information	71
F208 Load and verify operational flight programs (OFP) using EPROM programmer verifiers (EPVs)	71

TABLE A2
F-117 AVIONICS TECHNICIANS IJT
(STG104)

<u>TASKS</u>	PERCENT MEMBERS PERFORMING <u>(N=32)</u>
F209 Load and verify OFP into line replaceable units (LRUs)	100
F234 Perform ITA wraparound tests	100
P1184 Confidence test P/P test stations	96
F233 Perform functional checks of LRUs issued from supply	96
F191 Clean test stations	96
P1182 Align P/P test stations	96
F189 Clean shop facilities	96
F219 Operationally check interface test adapters (ITAs)	94
P1192 Operationally check remote interface units (RIUs)	94
P1215 Troubleshoot RIUs	94
P1185 Diagnostic test P/P test stations	94
F264 Repair ITAs	94
F237 Perform periodic inspections of test stations	91
P1186 Operationally check ALR-69 signal processors	91
P1203 Repair RIUs	91
F250 Remove or replace test station air bottles	91
P1209 Troubleshoot P/P test station SRUs	91
P1210 Troubleshoot P/P test station TRUs	91
F253 Remove or replace test station SRUs	91
P1198 Repair P/P test station SRUs	91
P1181 Adjust processors/pneumatics (P/P) test station TRUs	91
F292 Troubleshoot ITAs	91
P1187 Operationally check central interface units (CIUs)	88

TABLE A3
A-10 AVIONICS TECHNICIANS IJT
(STG117)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING (N=15)</u>
F218 Operationally check IMUs or INUs	100
F219 Operationally check interface test adapters (ITAs)	100
F216 Operationally check air data computers (ADCs) or CADCs	100
F217 Operationally check control display units (CDUs)	100
Q1237 Troubleshoot EPUs	100
Q1222 Internally self-test IATSS	100
Q1231 Repair EPUs	100
Q1225 Operationally check electronic processing units (EPUs)	100
F259 Repair CDUs	100
F176 Adjust central air data computer (CADC) shop replaceable units (SRUs)	100
Q1233 Repair MBCs	100
Q1239 Troubleshoot MBCs	100
F191 Clean test stations	100
Q1227 Operationally check master bus controllers (MBCs)	100
Q1230 Repair DDUs	100
Q1236 Troubleshoot DDUs	100
Q1240 Troubleshoot UDUs	100
Q1238 Troubleshoot HUD CDUs	100
Q1234 Repair UDUs	100
Q1232 Repair HUD CUs	100
Q1226 Operationally check HUD control units (CUs)	100
Q1228 Operationally check umbilical display units (UDUs)	100
Q1224 Operationally check diagnostic display units (DDUs)	100
F263 Repair IMUs or INUs	93
F291 Troubleshoot IMUs or INUs	93
Q1242 Use MATE operating systems (MOSSs)	93
F255 Repair ADCs or CADCs	93
F287 Troubleshoot ADCs or CADCs	93
F288 Troubleshoot CDUs	93
F233 Perform functional checks of LRUs issued from supply	93
F215 Maintain tool boxes or CTKs	93

TABLE A4
B-1 AVIONICS CLUSTER
(GP036)

<u>TASKS</u>	PERCENT MEMBERS PERFORMING <u>(N=116)</u>
F234 Perform ITA wraparound tests	94
F237 Perform periodic inspections of test stations	91
F253 Remove or replace test station SRUs	91
F191 Clean test stations	91
F204 Inspect test equipment	91
F248 Remove or replace pins or connectors	91
F279 Repair test stations	89
F196 Execute FIND ALIGN	86
F189 Clean shop facilities	86
W1382 Access core automated maintenance system (CAMS) menus and data screens	84
F214 Maintain test equipment	84
F205 Interpret diagrams, such as system, schematic, and fault isolation	84
F305 Troubleshoot using system editor (SYSEdit)	83
E138 Inventory tools, such as consolidated tool kits (CTKs)	78
W1387 Clear or close out completed maintenance discrepancies in CAMS	78
F254 Remove or replace test station tester replaceable units (TRUs)	78
F264 Repair ITAs	77
W1385 Change CAMS workcenter event narratives	77
F197 Fabricate or repair cables	77
F252 Remove or replace test station minor hardware	77
F219 Operationally check interface test adapters (ITAs)	76
W1389 Conduct CAMS interface with base supply systems	76
F201 Inspect common support equipment	74
F211 Load test programs on discs	74

TABLE A5

TRAINING IJT
(STG094)

<u>TASKS</u>	PERCENT MEMBERS PERFORMING (N=8)
D131 Prepare lesson plans	100
D134 Write test questions	100
D111 Conduct resident course classroom training	88
D109 Administer or score tests	88
D126 Evaluate resident course students	75
D132 Procure training aids, space, or equipment	75
D119 Develop training aids	75
D117 Develop performance tests	75
D113 Counsel trainees on training progress	63
D115 Develop computer based training (CBT)	38
D121 Direct or implement training programs, other than OJT or CAMS	38
D114 Determine training requirements, other than core automated maintenance system (CAMS) training	38
A23 Participate in meetings, such as staff meetings, briefings, conferences, or workshops	38
E153 Maintain TO files	25
D118 Develop resident course or career development course	25
D135 Write training reports	25
D127 Evaluate training methods or techniques	25
D133 Select individuals for specialized training	25
D128 Maintain training records, charts, or graphs	25
D110 Conduct on-the-job training (OJT)	25
D123 Evaluate effectiveness of training programs	25
F199 Identify deficiencies in ATLAS programs	13
E152 Maintain TMDE reports	13
E150 Maintain test measurement diagnostic equipment (TMDE) calibration schedules	13
D120 Direct OJT programs	13

TABLE A6
PROGRAM MANAGERS
(STG075)

<u>TASKS</u>	PERCENT MEMBERS PERFORMING (N=5)
C108 Write staff studies, surveys, or special reports, other than training reports	100
A23 Participate in meetings, such as staff meetings, briefings, conferences, or workshops	100
A7 Determine requirements for space, personnel, equipment, or supplies	100
C92 Evaluate suggestions	100
A25 Plan equipment or facility maintenance requirements	80
A24 Plan briefings	80
C93 Evaluate TO improvement reports	80
E156 Monitor depot level repair (DLR) programs	80
C102 Review correspondence	60
A17 Draft budget or financial requirements	60
B53 Implement cost-reduction programs	60
E163 Research microfiche or FEDLOG stock files for parts information	60
A5 Coordinate maintenance work with appropriate personnel or agencies	60
C77 Evaluate budget or financial requirements	60
B50 Draft higher headquarters directives	60
B52 Draft recommendations for changes in equipment or personnel requirements	60
C81 Evaluate equipment modification data	40
E137 Compile data for reports or requisitions	40
E164 Research technical data for part numbers	40
D114 Determine training requirements, other than core automated maintenance system (CAMS) training	40
D116 Develop new equipment training programs	40
E146 Maintain reports, such as deficiency, improvement, service, or status reports	40
B43 Direct development or maintenance of status boards, graphs, or charts	40
A9 Develop cost-reduction	40
C78 Evaluate causes of mission operational discrepancies	40

TABLE A7

FIRST LINE SUPERVISORS IJT
(STG050)

<u>TASKS</u>	PERCENT MEMBERS PERFORMING <u>(N=67)</u>
A8 Determine work priorities	95
B42 Counsel subordinates on personal or military matters	95
A5 Coordinate maintenance work with appropriate personnel or agencies	95
A23 Participate in meetings, such as staff meetings, briefings, conferences, or workshops	93
A1 Assign maintenance and repair work	88
C107 Write recommendations for awards and decorations	87
A27 Plan or schedule work priorities	87
A20 Establish performance standards for subordinates	85
A7 Determine requirements for space, personnel, equipment, or supplies	84
A29 Plan work assignments	82
C82 Evaluate individuals for promotion or recognition	80
B65 Supervise Avionics Test Station and Component Journeyman, F-16/ F-117/A-10/B-1B (AFSC 2A071B)	79
B49 Direct shop maintenance activities	77
A2 Assign personnel to duty positions	77
B61 Interpret policies, directives, or procedures for subordinates	74
B66 Supervise Avionics Test Station and Component Craftsman, F-16/F-117/ A-10/B-1B (AFSC 2A071B)	74
C71 Certify status of repairable, serviceable, or condemned parts	74
A36 Schedule temporary duty, leaves, or passes	74
B40 Conduct supervisory orientations of newly assigned personnel	72
E173 Verify mission capability (MICAP) conditions	71
A26 Plan layout of shop facilities	71
B43 Direct development or maintenance of status boards, graphs, or charts	71
A14 Develop self-inspection programs	70
W1383 Analyze CAMS data	70
B45 Direct maintenance of facilities or work areas	69